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STENOTHREMMA, A NEW EUPHORINE GENUS FROM AUSTRALIA (HYMENOPTERA: BRACONIDAE)

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Abstract.—***Stenothremma*** Shaw, a new euphorine braconid genus from the Australian region, is described and illustrated. Three new species are included in the genus: ***S. brevicorne***, ***S. townesi***, and ***S. novicaledoniense***. A key to species is presented.

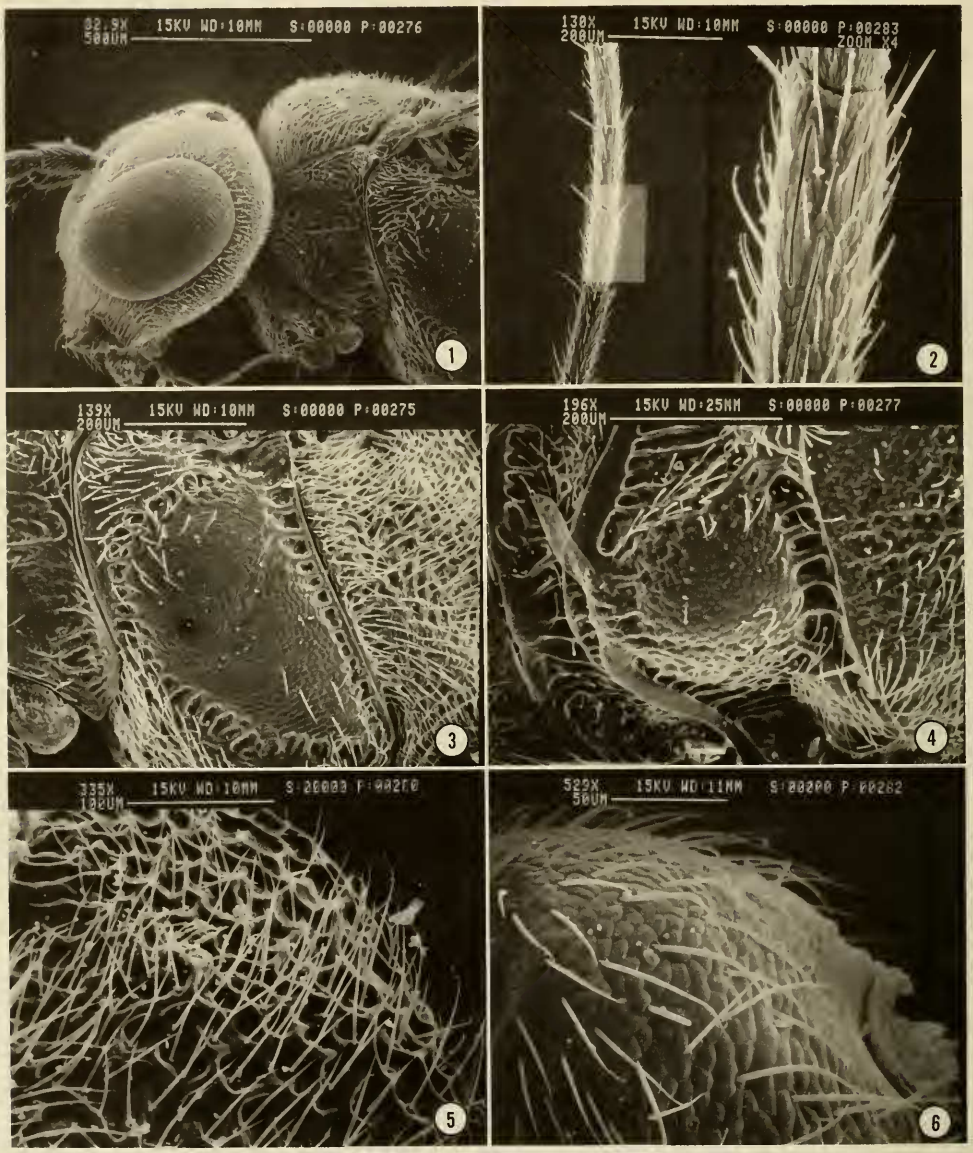
The existence of this new genus was recently called to my attention by Dr. Henry Townes, who kindly allowed me to examine the specimens from his collection. Two species of the new genus were represented in the Townes collection [AEI], and specimens of a third species were later found in the Canadian National Collection [CNC] at Ottawa. The unusual form of the metasoma is rather striking (Figs. 10–11), and allows the genus to be easily distinguished from other braconid genera. Another striking feature is the imbricate microsculpture (Figs. 3, 4, and 6), which is seldom seen in other euphorine genera. This study is in support of a larger project, currently in progress, investigating the phylogenetic relationships among the genera of Euphorinae.

Genus *Stenothremma* Shaw, New Genus

Type species: Stenothremma brevicorne, new species.

Head transverse, slightly wider than mesosoma, setose, finely granular; eyes oval, glabrous, distinctly convergent ventrally, with a silvery sheen; eye large, in lateral profile occupying most of head; malar space short, about $\frac{1}{5}$ eye height; malar suture absent; clypeus slightly convex, lower margin rounded; mandibles bidentate, apical tooth twice as long as basal tooth, mandibles overlapping nearly completely when closed; palpi very short; maxillary palpus 5-segmented, slightly shorter than mandible length; labial palpus 3-segmented, about ½ as long as maxillary palpi; antenna inserted at middle of head; inter-antennal distance about one socket width; scape length about 2× scape width; flagellum slender, 13–24 flagellomeres; each flagellomere with an apical corona of 5–6 long setae, each seta nearly as long as flagellum width; all flagellomeres longer than wide, gradually shorter distally; apical flagellomere tapering to a point; median frontal carina present, strong; ocellar triangle slightly isosceles; occipital carina complete; occiput nitid.

Mesosoma setose, mostly with fine granular sculpture; notauli indistinct; sternaulus indicated by a broad coarse depression; scutellar furrow narrow, foveate; scutellar disc slightly convex, finely granular; propodeum finely areolate-rugose,



Figs. 1–6. *Stenothremma novicaledoniense*. 1, Lateral view of head and mesosoma. 2, Flagellomeres 1–4 and detail of F2. 3, Lateral view of mesopleuron. 4, Dorsal view of scutellum. 5, Lateral view of propodeum. 6, Lateral view of hind coxa.

strongly declivous in lateral profile; postero-medial propodeal impression strong; petiolar notch deep, extending to anterior margin of hind coxa; hind coxa granular, small, about ¼ petiole length; metatibial spurs short, about ¼ metabasitarsus length; tarsal claws simple; wings hyaline; basal vein nearly straight; second intercubitus present or absent, if present lightly sclerotized; radius arcuate apically; brachius absent apically; metacarpus extending distinctly beyond apex of radial

cell; medius distinctly sclerotized; hind wing venation weakly sclerotized, except apex of costella; radiella and cubitella absent.

Petiole long, from ¾ to 1 × mesosoma length, slender, apical ½ swollen relative to basal ½, entirely fused ventrally, slightly arched in lateral view; glymma and dorsope absent (see van Achterberg, 1974); petiolar spiracles posterior of middle; gaster strongly compressed, tergites overlapping slightly ventrally; tergites 2 + 3 slightly longer than petiole, with sharp lateral folds basally; tergites 4–6 exposed, combined about as long as tergites 2 + 3; hypopygium prominent, setose, folded ventrally; exserted ovipositor as long as, or longer than, petiole; ovipositor distinctly arched downwards, sharply pointed apically; sheaths slightly shorter than ovipositor, sparsely but evenly setose.

Remarks.—The genus is most closely related to the *Aridelus-Wesmaelia-Chrysopopthorus* lineage of Euphorinae. Synapomorphies of these genera include: long sickle-like mandibles; median frontal carina; areolate-rugose propodeum; strong postero-medial propodeal impression; deep petiolar notch; long slender petiole, entirely fused ventrally; glymma and dorsope absent. *Stenothremma* may be easily distinguished from these genera by its strongly compressed metasoma. *Stenothremma* is the only euphorine genus with both a long slender petiole and a laterally compressed gaster. The only other euphorine genera with a laterally compressed metasoma are *Myiocephalus* and *Bracteodes*. These genera are part of an entirely different lineage with strikingly different wing venation. The first cubital abscissa is absent in these genera, thus a large disco-cubital cell is present. The first cubital abscissa is always present in *Stenothremma*.

An interesting feature is the variability of the second intercubitus (ICu2), which makes it difficult to place the genus in existing keys. In Tobias' (1966) key to world euphorine genera those species with the ICu2 present would key to *Chrysopopthorus*, while those with the ICu2 absent would run (with difficulty) to *Perilitus*. The same is true of Marsh's (1971) key to Nearctic genera. The genus would key to *Perilitus* in Loan's (1983) key to Nearctic euphorine genera, although *Stenothremma brevicorne* could be keyed to the same couplet as *Cryptoxilos* because of its short flagellum.

Hosts.—Unknown. Related genera are mostly parasites of Hemiptera.

Etymology.—The name is neuter, from Greek, meaning narrow creature. It refers to the compressed metasoma that characterizes the genus.

Key to the Species of *Stenothremma*

1. Tergite 2 at base only about as wide as petiole; tergites 3–6 folded medially; ovipositor equal to or shorter than petiole 2
– Tergite 2 broadening abruptly from base, basally distinctly wider than petiole; tergites 3–6 not folded medially; ovipositor distinctly longer than petiole ..... *Stenothremma townesi*, new species
2. Flagellum short, 13-segmented; antenna less than 1.5 times head width; radial cell, along wing margin, distinctly shorter than stigma length; second intercubitus present; ovipositor about as long as petiole ..... *Stenothremma brevicorne*, new species
– Flagellum longer, 19-segmented; antenna about 2.5 times as long as head

width; radial cell, along wing margin, about as long as stigma; second intercubitus absent; ovipositor about ⅔ petiole length .....
..... *Stenothremma novicaledoniense,* new species

Stenothremma brevicorne Shaw, New Species

Figs. 8, 10, 11

Holotype.—Female, Australia: Northern Territory, Areyonga, 600m, September 28, 19 ? [AEI]

Description of holotype female.—Body length 3.5 mm; fore wing length 2.5 mm.

Color: Head mostly yellowish brown; ocellar triangle, frons medially, and occiput black; facial setae silver; scape, pedicel, and base of F1 yellow, remainder of flagellum black; mouthparts yellow, except apical mandibular tooth dark brown; mesosoma black; setae silver; tegula yellow; wings hyaline; costa, stigma, parastigma, metacarpus, radius, basal vein, cubitus, intercubiti, discoideus, nervulus, brachius basally, and costella apically brown; other veins pale yellow; legs mostly yellow; middle and hind coxae and trochanters, and apical tarsomeres dark brown to black; fore coxa and trochanter, hind tibia, and middle and hind tarsi suffused with brown; petiole dark brown to black, except dorsal apex yellowish brown; gaster yellowish brown dorsally and laterally, venter black except hypopygium yellow; ovipositor yellowish brown, sheaths dark brown to black.

Head: Face, gena, and clypeus densely setose, setae mostly obscuring granular surface sculpture; frons, vertex, and temple less densely setose, granular sculpture clearly visible through setae; antenna short, less than 1 and ½× as long as head width; 13 flagellomeres; flagellum evenly thick throughout, except for F13 which tapers to a blunt point.

Mesosoma: Pronotum distinctly visible from above, not obscured by anterior part of mesonotum; mesonotum uniformly finely granular, anterior corners of notauli slightly impressed but not sculptured differently from mesonotum; scutellar furrow 8-foveate; mesopleural disc granular; anterior mesopleural margin, dorsal margin, posterior margin, and sternaulus foveolate; propodeum squarish in lateral view, posterior face nearly perpendicular to longitudinal axis of mesosoma; second radial abscissa distinctly shorter than first radial abscissa; radial cell along wing margin distinctly shorter than length of stigma; metacoxae finely and evenly imbricate; metatarsal ratio 14:6:4:3:3.

Metasoma: Petiole about as long as length of mesosoma; postero-dorsal surface of petiole finely imbricate; tergite 2 at base only about as wide as petiole; tergites 3–6 folded medially, finely granular laterally; ovipositor about as long as petiole.

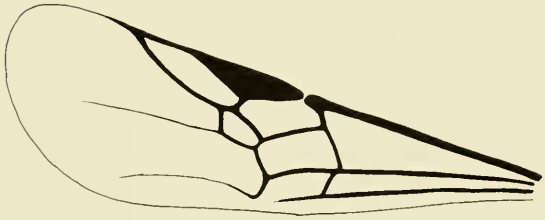
Paratype females.—Essentially same as holotype female, except body length 3.5–5.1 mm; fore wing length 2.5–2.6 mm.

Male.—Unknown.

Paratype data.—2 females, same data as holotype, except collected October 30. [AEI]

Remarks.—*Stenothremma brevicorne* is readily distinguished from other species in the genus by its short flagellum, which is 13-segmented. Other species of the genus have 19–24 flagellomeres. Also, the propodeum is squarish in lateral view, with the posterior face nearly perpendicular to the longitudinal axis of the meso-

7



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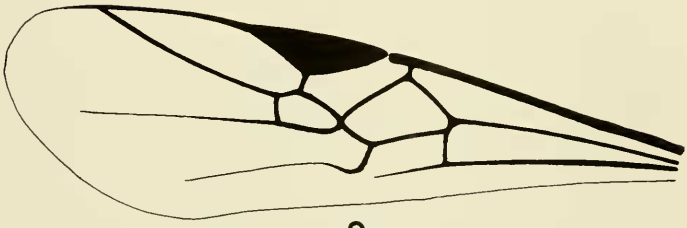

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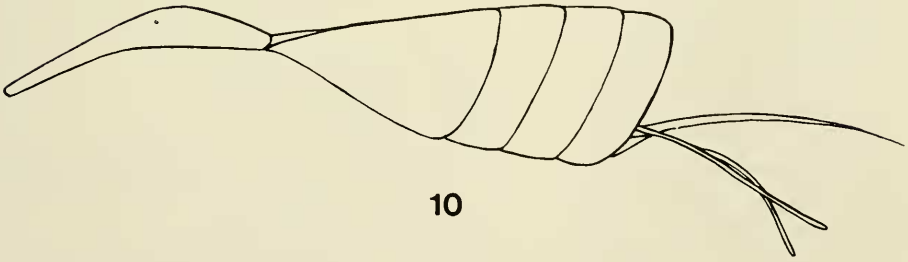

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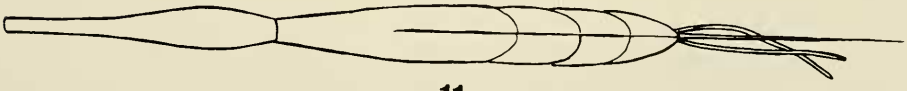

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Figs. 7–11. *Stenothremma* spp. 7, *S. novicaledoniense,* fore wing venation. 8, *S. brevicorne,* fore wing venation. 9, *S. townesi,* fore wing venation. 10, *S. brevicorne,* lateral view of metasoma. 11, *S. brevicornis,* dorsal view of metasoma.

soma. In other species the posterior face of the propodeum slopes at about 80 degrees relative to the longitudinal axis of the mesosoma.

Etymology.—The name refers to the short antennae which are distinctive of the species.

Stenothremma townesi Shaw, New Species

Fig. 9

Holotype.—Female, Australia: Northern Territory, Wave Hill, August 19 ? [AEI]

Description of holotype female.—Body length 4.8 mm; fore wing length 2.7 mm.

Color: Head mostly yellowish brown; ocellar triangle, apex of mandible, apical ½ of flagellomeres 2–3, and entire flagellum beyond F3 black; setae white; palpi brown; mesosoma mostly reddish brown, darker along edges of sclerites; tegula yellow; wings hyaline; costa, stigma, parastigma, metacarpus, radius, second cubital abscissa, intercubiti, recurrent vein, discoideus, and nervulus brown; other veins of fore wing pale yellowish brown; hind wing venation pale white; legs mostly yellowish brown, except tarsi brown to black apically; petiole yellowish brown; most of gaster yellowish brown except apex of tergite 6, venter of hypopygium, and ovipositor sheaths black; ovipositor brown.

Head: Sparsely setose, setae not obscuring surface sculpture; face, gena, temple, frons, and vertex granular; clypeus smooth and shining, more sparsely setose than face; antenna about 3 × as long as head width; 24 flagellomeres; flagellum gradually more slender apically; apical flagellomere tapering to a sharp point.

Mesosoma: Pronotum not visible when viewed from above, obscured by anterior bulge of mesonotum; mesonotum mostly granular, except anterior corners of notauli slightly more coarsely sculptured; scutellar furrow 6-foveate; mesopleural disc mostly granular; posterior mesopleural margin foveolate; sternaulus and dorsal mesopleural margin rugose; posterior face of propodeum sloping in lateral view at an angle of about 80 degrees relative to the longitudinal axis of the mesosoma; second radial abscissa as long as first radial abscissa; radial cell along wing margin fully as long as stigma; metacoxa mostly smooth, although sparsely imbricate on outer face; metatarsal ratio 15:5:4:3:3.

Metasoma: Petiole distinctly shorter than mesosoma, about ¾ greatest length of mesosoma; petiole surface smooth and polished; tergite 2 broadening abruptly from base, basally distinctly wider than petiole; tergites 3–6 not folded medially, smooth and polished; ovipositor distinctly longer than petiole.

Paratype female.—Essentially as in holotype, except body length 3.8 mm; fore wing length 3.0 mm; tergites 3–6 and venter of gaster more extensively suffused with black.

Male.—Unknown.

Paratype data.—1 female, Australia: South Australia, 10 Km. N. Kingoonya, at blacklight, 2 April 1980, (G. F. Hevel and J. A. Fortin). [USNM]

Remarks.—*Stenothremma townesi* is readily distinguished from other species of the genus by the second tergite, which is broader than the petiole; and the ovipositor which is longer than the petiole. In other species the second tergite is only about as wide as the petiole and the ovipositor is at most as long as the petiole, sometimes shorter.

Etymology.—The species is named for Dr. Henry Townes, in gratitude for his generous loan of specimens from his personal collection and for calling to my attention the existence of this new genus of Euphorinae.

Stenothremma novicaledoniense Shaw, New Species
Figs. 1–7

Holotype.—Female, New Caledonia: Ouen Toro, Noumea, 7-I-1972, (P. Cochereau). [CNC]

Description of holotype female.—Body length 3.5 mm; fore wing length 2.4 mm.

Color: Head mostly yellow; ocellar triangle, frons medially, and occiput black; facial setae silver; scape and pedicel yellow; flagellum yellowish brown basally, becoming dark brown distally; mouthparts yellow, except mandibular teeth reddish brown; mesosoma mostly black, except mesonotum, scutellar disc, dorsolateral corner of pronotum, and mesopleuron dorsally yellow; tegula yellowish white; wings hyaline; costa, stigma and parastigma dark brown, other veins of fore wing yellowish brown; hind wing venation pale yellow; legs mostly yellow, except hind tibia and tarsus brown; basal ½ of petiole yellowish brown, distal ½ dark brown; tergites 2 + 3 dark brown dorsally, remaining tergites yellowish brown suffused with dark brown; hypopygium yellowish white; ovipositor sheaths black; ovipositor yellow.

Head: Face, gena, and clypeus densely setose, setae mostly obscuring granular surface sculpture; frons, vertex, and temple less densely setose, granular sculpture clearly visible through setae; antennae about 2.5× as long as head width; 19 flagellomeres; flagellum width even throughout, except for F19 which tapers to a blunt point.

Mesosoma: Pronotum distinctly visible from above, not obscured by anterior part of mesonotum; mesonotum uniformly finely granular; notauli indistinct; scutellar furrow 8-foveate; mesopleural disc granular, sternaulus rugose, anterior, dorsal, and posterior mesopleural borders foveolate; posterior face of propodeum sloping in lateral view at an angle of about 80 degrees relative to longitudinal axis of mesosoma; second intercubitus absent, therefore second and third radial abscissae form single arcuate segment; radial cell along wing margin about as long as stigma; metacoxa finely and evenly imbricate; metatarsal ratio 14:6:4:3:3.

Metasoma: Petiole slightly shorter than mesosoma, about 7/8 greatest length of mesosoma; dorsal surface of petiole finely imbricate; tergite 2 at base only about as wide as petiole; tergites 3–6 folded medially, finely granular laterally; ovipositor about ⅔ petiole length.

Paratype females.—Essentially same as in holotype female, except body length 2.8–4.5 mm; fore wing length 2.4–2.6 mm; 18–20 flagellomeres; tergites 2–6 from extensively suffused with dark brown to nearly entirely yellowish brown; fore wing venation dark brown to pale yellowish brown.

Male.—Unknown.

Paratype data.—22 females, same data as holotype; 1 female, same data as holotype except collected 1–19 VI 1972; 1 female, same data as holotype except collected V 1972. [CNC]

Remarks.—This species is easily distinguished from other species of the genus by the absence of the second intercubitus, which is present in other species. Also,

Stenothremma novicaledoniense has the shortest ovipositor observed for the genus, only about ⅔ the petiole length. Other species have the ovipositor at least as long as the petiole, sometimes longer.

Etymology.—The species is named for the type locality, which is isolated from the mainland distributions of other species.

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